PRIMELAB 1.0
MULTITEST
PHOTOMETER

Accurate and reliable water testing

1 JENCOLOR Sensor - ALL Parameters
(visible wavelength range)

Fast *Bluetooth*®- Connection

Powerful Software

NEW 1 hour Legionella testing!

Desktop Assistant Software

APP

Cloud

YouTube

Sensor/Optics by

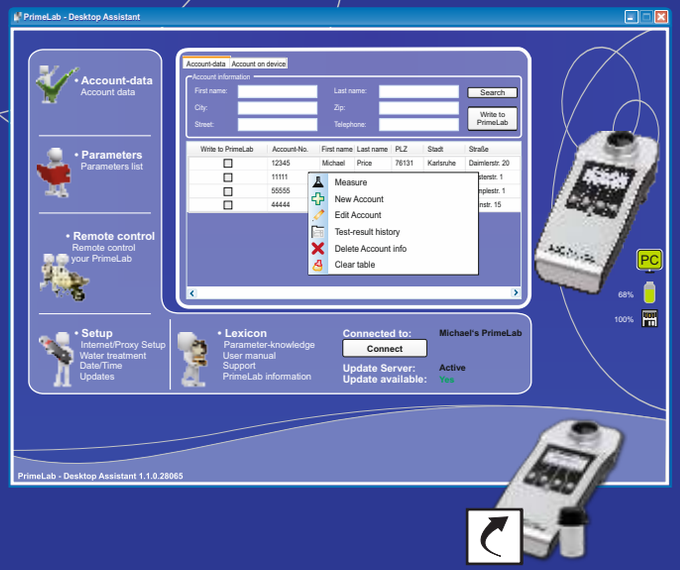
JENCOLOR

WATER TESTING
MADE IN GERMANY

INNOVATION

by
WATER-I.D.®
POOL-I.D.®

PRIMELAB 1.0
MULTITEST



PrimeLab.exe

Photometer meets Future

Photometers for electronic and highly accurate determination of water values are standard equipment in every laboratory.

Similarly, mobile phones are standard equipment in our daily lives, and yet over the past few decades they have continuously adapted to technical progress.

Do you still make calls today with a mobile phone of past generations from 10 or 20 years ago or do you prefer the benefits of smartphones with fast *Bluetooth*® - wireless technology -, synchronisation with your PC software, apps and many other technical advantages?

How about your photometer …?
has it kept pace with technological progress, or do you still transmit your data via a serial port, an IR interface or even not at all!?
Is your data analysis restricted to predefined, parameters?
Did you have a choice of which parameters you want to measure?
Is the performance of your photometer limited to a few or even only one wavelength?

Time for a change

Introducing the next generation of photometers!

Data connection via *Bluetooth*® - wireless technology - within seconds, similar to your smartphone in your car.

A sensor by JENCOLOR with unprecedented accuracy, able to measure all parameters where colour development is visible to the human eye after adding a reagent (visible wavelength).

Software that will offer you not only user based management of your measurement sources (e.g. pools) and related measurement data but also offer advice on adjusting the water values back to ranges defined by you.

Software allowing you to easily upload additional parameters on your Photometer.

A device that auto-calibrates itself within milliseconds at the push of a button without having to return it to the manufacturer!

Sensor/Optics by

JENCOLOR

The Sensor

The JENCOLOR
Multiple-Color-Sensor
(scale ~ 1:20)

The difference

When a coloured reagent is added to a water sample using a conventional photometer, light is passed through the sample, with an LED at a specific wavelength, to a sensor placed on the other side of the sample which detects how much light has passed through the water sample (transmission).
From this single value on one wavelength then the water value, such as “pH 7.25”, is determined, using a table previously defined in the unit.

Currently measurement of a comprehensive range of parameters on one device has required either installation of several light sources and sensors (set to specific wavelengths) or use of colour interference filters, to generate different wavelengths. Only one specific wavelength is measured using this technique only allowing limited parameters.

The JENCOLOR MultiColor sensor has the required filters already installed on the sensor itself, and measures across several channels. This enables the PrimeLab to measure all parameters that, after addition of a reagent, show a visible colour – with unprecedented precision, because the measurement is performed not “around” but precisely at the wavelength range of the sample measuring the colour in seven different scales simultaneously.

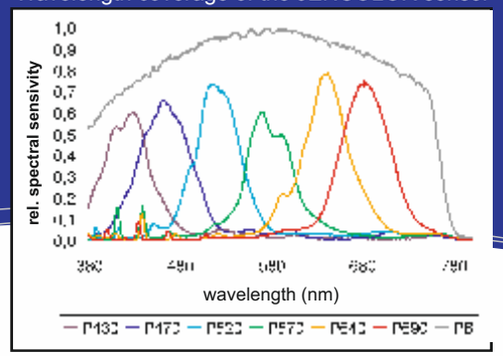
Tests have shown that the JENCOLOR sensor, once calibrated, achieves 98 % of the accuracy of a spectrometer! And all this with only 1 light source and only 1 sensor!

The PrimeLab is even future proof as you are able to add Parameters that are not installed on the device at purchase and can be conveniently installed by using “PrimeLab Desktop Assistant” software.

Colours and their wavelengths

colour	wavelength (nm)
purple	380 - 420 nm
blue	420 - 490 nm
green	490 - 575 nm
yellow	575 - 585 nm
orange	585 - 650 nm
red	650 - 750 nm

Wavelength coverage of the JENCOLOR sensor



1 Light-Source
1 Sensor
ALL Parameters

Sometimes little miracles happen when two completely different industries happen to meet and previously unforeseen synergies arise.

This is happened when we started the development of the “PrimeLab” in late 2010 with our development partner.

JENCOLOR

JENCOLOR is the brand of a subsidiary of a globally renowned optics and sensor manufacturer, with its headquarters in Jena in Thuringia, Germany.
The “JENCOLOR Multiple Color” sensors are currently used in medical equipment, pre-press and even in passenger aeroplanes for LED light control in the cabin.

Technology / Colour

The Human Eye sees colour when light falls on to the subject and light waves return to the human eye.
Depending on the shape of this wave – this is called “wavelength” – we see different colours, such as red, green, etc.
The wavelengths visible to the human eye range from 380 to 780 nm.
All colours recognizable by the eye are in this range (see graph).

Account- and Test-Result-Management

• Define any number of “accounts” (addresses, measuring sources with volume specifications…). Each measurement performed with the PrimeLab is assigned to such an “account”.

• Transfer of 20 “Accounts” to the PrimeLab per mouse click.

• Synchronization of measurement data between the PrimeLab and the “PrimeLab Desktop Assistant”

• Convenient reporting function for printing results; account-related, selected by date and / or parameter.

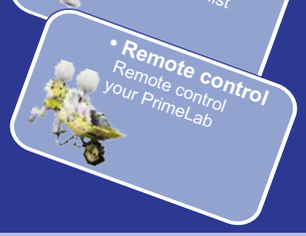
Dose recommendation

• You can input the water treatment chemicals that you use and ideal ranges for each parameter you can get dosage recommendations calculated, view them and print them.

• Store your individually used water treatment chemicals (e.g. “pH Minus”).

• Store ideal ranges for each measurement parameter (e.g. “pH 7.2 – 7.4”).

Parameter-Management / Remote Control



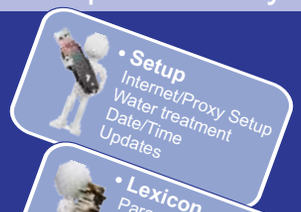
• Subsequent uploading of additional parameters on the PrimeLab by entering a code into the software.

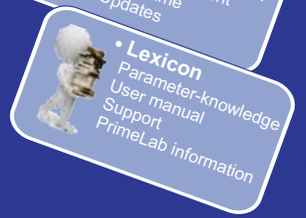
• Remote control of the PrimeLab.

• Overview of all methods of measurement with display of measurement ranges and stored ideal ranges.

• Definition of customized ideal ranges per parameter.

Setup / Glossary / Support





• Update of the PrimeLab firmware and the “PrimeLab Desktop Assistant” software by mouse click.

• Personalisation of the PrimeLab / individual naming of your machine.

• Setting date and time / Internet access / reset to factory default values.

• Networking with other users via the forum on www.PrimeLab.org.

• Extensive information on water per parameter in the section “Glossary”.

• Connection of multiple PrimeLabs to the software.

The Software

„PrimeLab Desktop Assistant“

PrimeLab Desktop Assistant
One of the innovations of the “PrimeLab 1.0” is the lightning-fast wireless technology of the photometer to a Windows PC via *Bluetooth*®.

The “PrimeLab 1.0” connects instantly and automatically after each power-up, just as you know it e.g. from your smartphone when entering your car.

Each “PrimeLab 1.0” with integrated *Bluetooth*®-module is supplied with a *Bluetooth*®-USB dongle with which you can add wireless connection capability to your computer if this is not already enabled.

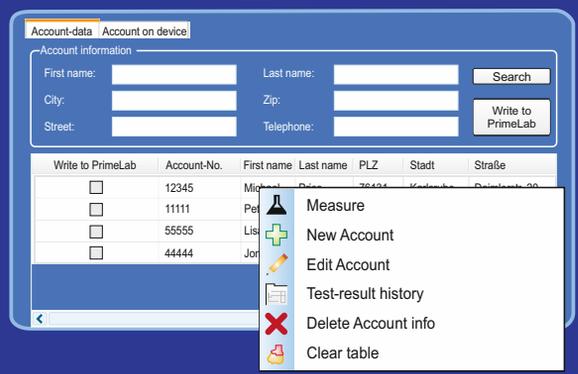
The Windows software “PrimeLab Desktop Assistant“ is a strikingly powerful tool that allows you:

Activating further measurement methods on the PrimeLab

Convenient management and reporting of test results

Dosage recommendations, based on our individual water treatment chemicals

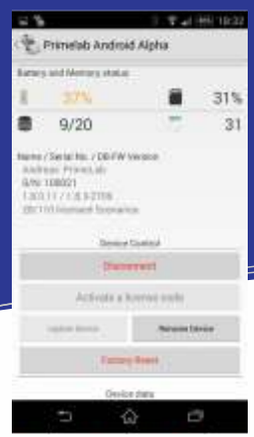
Updating the PrimeLab firm and software
Remote control your PrimeLab

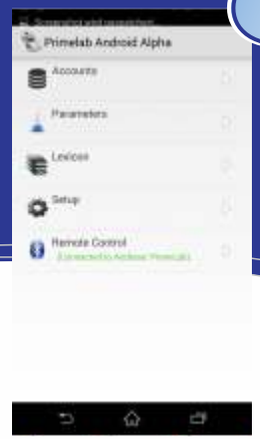


The App

The PrimeLab app for Android, iPhone, iPad and Windows phone lets you easily connect via *Bluetooth*® with your PrimeLab device for complete remote control operation and even cloud services. Using PrimeLab Desktop Assistant software in combination with the PrimeLab App and our free cloud solution gives you instant access to all your test data no matter where you are. Like the PrimeLab Desktop Assistant, the App allows you to connect, remote control and update your PrimeLab device. Activating additional parameters on your PrimeLab via the app is possible as well. The PrimeLab App for Android/iPhone/iPad and Windows phones will be available from now on.

Andoid
Apple
Windows





Easily connect your PrimeLab and automatically upload test results to powerful STAadmin.co.uk platform for professional water management.

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Parameters list

As per 07/2015

Since via the “PrimeLab Desktop Assistant” it is simple to upload additional parameters by entering a code within minutes and also long after purchase of the device. The software will actively alert you when updates are available!

ID	Parameter/Methode	Test-Range	Resolution	Reagent
Active Oxygen (MPS)				
1	Active Oxyg. (MPS)	0 - 40 mg/l	0.1	Tablet
Alkalinity				
5	Alkalinity-M	5 - 200 mg/l	1	Tablet
121	Alkalinity-M (HR)	0 - 500 mg/l	1	Tablet
6	Alkalinity P	5 - 300 mg/l	1	Tablet
Aluminium				
4	Aluminium	0 - 0.3 mg/l	0.01	Tablet
Ammonia				
2	Ammonia (LR)	0 - 1 mg/l	0.01	Tablet
Boron				
7	Boron	0 - 2 mg/l	0.1	Tablet
Bromine				
8	Bromine	0 - 18 mg/l	0.01	Tablet
63	Bromine	0 - 18 mg/l	0.01	Powd./Liq.
128	Bromine	0 - 4.5 mg/l	0.01	Powder
Carbohydrazide				
71	Carbohydrazide	0 - 1.3 mg/l	0.01	Liquid
Chloramines (Mono-/Di-)				
95	Chloramines	0 - 8 mg/l	0.01	Tablet
Chloride				
10	Chloride	0.5 - 25 mg/l	0.1	Tablet
124	Chloride	0 - 100 mg/l	0.1	Liquid
Chlorine				
129	Chlorine libre	0 - 2 mg/l	0.01	Powder
11	Chlorine	0 - 8 mg/l	0.01	Tablet
12	Chlorine	0 - 8 mg/l	0.01	Liquid
122	Chlorine (MR)	0 - 10 mg/l	0.01	Tablet
15	Chlorine (HR) (KI)	0 - 200 mg/l	1	Liquid
14	Chlorine (HR) (KI)	5 - 200 mg/l	1	Tablet
Chlorine Dioxide				
16	Chlorine Dioxide	0 - 15 mg/l	0.01	Tablet
64	Chlorine Dioxide	0 - 15 mg/l	0.01	Liquid
130	Chlorine Dioxide	0 - 5 mg/l	0.01	Powd./Liq.
108	Total Oxidant	0 - 8 mg/l	0.01	Liquid
Chlorite				
106	Chlorite	0 - 8 mg/l	0.01	Liquid
Chromium (hexavalent)				
94	Chromium (hexaval.)	0 - 2.2 mg/l	0.01	Liquid
103	Chromium (hexaval.)	0 - 1 mg/l	0.01	Powd./Liq.
COD				
79	COD (LR)	0 - 150 mg/l	1	Prepared
80	COD (MR)	0 - 1500 mg/l	1	Prepared
17	COD (HR)	0 - 15000 mg/l	1	Prepared
Colour				
107	Colour	15 - 500 mg/l	1	-
Copper				
18	Copper	0 - 5 mg/l	0.01	Tablet
19	Copper	0 - 5 mg/l	0.01	Powder
Cyanuric Acid				
20	Cyanuric Acid	2 - 160 mg/l	1	Tablet
DBNPA				
65	DBNPA	0 - 13 mg/l	0.01	Liquid
82	DBNPA	0 - 13 mg/l	0.01	Tablet
DEHA				
21	DEHA	20 - 1000 µg/l	10	Liquid
Erythorbic Acid				
70	Erythorbic Acid	0 - 3.5 mg/l	0.01	Liquid
Fluorescein				
113	Fluorescein	0 - 500 µg/l	1	-
Fluoride				
72	Fluoride	0 - 2 mg/l	0.01	Liquid
Hardness - Calcium				
78	Calcium Hardn.	0 - 500 mg/l	1	Tablet
9	Calcium Hardn. (HR)	50 - 1000 mg/l	1	Tablet
Hardness - Total				
56	Total Hardn. (LR)	2 - 50 mg/l	1	Tablet
57	Total Hardn. (HR)	20 - 500 mg/l	1	Tablet
148	Total Hardn. (HR)	0 - 200 mg/l	1	Liquid
Hydrazine				
23	Hydrazine	5 - 600 µg/l	1	Liquid
Hydrogen Peroxide				
24	Hyd. Peroxide (LR)	0 - 3.8 mg/l	0.01	Tablet
66	Hyd. Peroxide (LR)	0 - 3.8 mg/l	0.01	Liquid
25	Hyd. Peroxide (HR)	0 - 200 mg/l	1	Liquid
109	DEWAN-50	0 - 300 mg/l	1	Liquid
Hydroquinone				
26	Hydroquinone	0 - 2.5 mg/l	0.01	Liquid
Iodine				
27	Iodine	0 - 28 mg/l	0.01	Tablet
67	Iodine	0 - 28 mg/l	0.01	Liquid
Iron				
28	Iron (LR)	0 - 1 mg/l	0.01	Tablet
29	Iron (MR)	0 - 10 mg/l	0.01	Powder
127	Iron (MR) ferrous	0 - 10 mg/l	0.01	Powder
30	Iron (HR)	0 - 30 mg/l	0.01	Liquid
132	Iron total	0 - 3 mg/l	0.01	Powder
Isothiazolinone				
88	Isothiazolinone	0 - 10 mg/l	0.1	Liquid
Legionella				
147	Legionella	60 - 1000000 cfu	1	Liquid
Magnesium				
93	Magnesium	0 - 100 mg/l	1	Tablet
Magnanese				
31	Manganese (LR)	0.2 - 5 mg/l	0.1	Tablet
Methylethylketoxime				
69	Methylethylketoxime	0 - 4.1 mg/l	0.01	Liquid
Molybdate				
96	Molybdate (LR)	0 - 15 mg/l	0.01	Tablet
134	Molybdate (HR)	0 - 40 mg/l	0.1	Powder
32	Molybdate (HR)	1 - 100 mg/l	0.1	Tablet
33	Molybdate (HR)	5 - 200 mg/l	0.1	Liquid
Nickel				
90	Nickel (HR)	0 - 7 mg/l	0.1	Tablet
100	Nickel (HR)	0 - 10 mg/l	0.1	Liquid
Nitrate				
34	Nitrate	0 - 11 mg/l	0.1	Powd./Liq.
Nitrite				
35	Nitrite (LR)	0 - 0.5 mg/l	0.01	Tablet
36	Nitrite (HR)	5 - 200 mg/l	0.1	Powder
97	Nitrite (HR)	0 - 1500 mg/l	1	Tablet
101	Nitrite (HR)	0 - 3000 mg/l	1	Liquid
Ozone				
37	Ozone	0 - 5.4 mg/l	0.01	Tablet
92	Ozone	0 - 5.4 mg/l	0.1	Liquid
Phenol				
98	Phenol	0 - 5 mg/l	0.01	Tablet
PHMB				
43	PHMB	2 - 60 mg/l	1	Tablet
Phosphate				
44	Phosphate (LR)	0 - 4 mg/l	0.01	Tablet
45	Phosphate (LR)	0 - 4 mg/l	0.01	Powd./Liq.
46	Phosphate (HR)	0 - 80 mg/l	0.1	Tablet
47	Phosphate (HR)	0 - 100 mg/l	0.1	Liquid
Phosphonate				
87	Phosphonate	0 - 20 mg/l	0.01	Liquid
110	Phosphonate	0 - 20 mg/l	0.01	Tablet
pH - Value				
40	pH-value (LR)	5.2 - 6.8	0.01	Tablet
38	pH-value (MR)	6.4 - 8.4	0.01	Tablet
pH - Value				
39	pH-value (MR)	6.4 - 8.4	0.01	Liquid
pH - Universal				
41	pH-Universal	5 - 11	0.1	Tablet
42	pH-Universal	4 - 11	0.1	Liquid
Polyacrylate				
85	Polyacrylate	1 - 30 mg/l	0.1	Liquid
Polyamine				
125	Acsamine 28F	0 - 100 mg/l	1	Liquid
145	Acsamine CC	0 - 100 mg/l	1	Liquid
146	Acsamine CCA	0 - 100 mg/l	1	Liquid
126	Acsamine DW	0 - 100 mg/l	1	Liquid
141	Acsamine DWBR1	0 - 100 mg/l	1	Liquid
142	Acsamine DWC	0 - 100 mg/l	1	Liquid
143	Acsamine SW	0 - 100 mg/l	1	Liquid
144	Acsamine SWC	0 - 100 mg/l	1	Liquid
Potassium				
48	Potassium	0.7 - 12 mg/l	0.1	Tablet
PTSA				
111	PTSA	0 - 1000 µg/l	1	-
QAC				
83	QAC	25 - 150 mg/l	1	Tablet
Silicia				
49	Silica (LR)	0 - 5 mg/l	0.01	Pow./Liq.
50	Silica (HR)	0 - 100 mg/l	1	Powder
Sodium Hypochlorite				
51	Sodium Hypochlorite	0.2 - 40 %	0.1	Tablet
68	Sodium Hypochlorite	0.2 - 40 %	0.1	Liquid
Sulphate				
54	Sulphate	5 - 100 mg/l	1	Tablet
55	Sulphate	5 - 100 mg/l	1	Powder
Sulphide				
52	Sulphide	0.04 - 0.5 mg/l	0.01	Tablet
140	Sulphide	0 - 0.7 mg/l	0.01	Liquid
Sulphite				
53	Sulphite (LR)	0 - 5 mg/l	0.1	Tablet
105	Sulphite (HR)	0 - 300 mg/l	0.1	Tablet
Suspended solids				
81	Suspended solids	0 - 750 mg/l	1	-
Tannic acid				
91	Tannic acid	0 - 150 mg/l	0.1	Liquid
Transmission				
114	Transmission-420 nm	0 - 100 %	0.1	-
115	Transmission-470 nm	0 - 100 %	0.1	-
116	Transmission-520 nm	0 - 100 %	0.1	-
117	Transmission-570 nm	0 - 100 %	0.1	-
118	Transmission-620 nm	0 - 100 %	0.1	-
119	Transmission-670 nm	0 - 100 %	0.1	-
Turbidity				
59	Turbidity	20 - 1000 FAU	1	-
112	Turbidity	0 - 1100 NTU	0.01	-
Urea				
120	Urea	0.1 - 2.5 mg/l	0.1	Tabl./Liq.
Zinc				
62	Zinc	0 - 1 mg/l	0.01	Tablet

Adapter kits for Turbidity (0-1100 NTU) / PTSA and Fluorescein

PrimeLab-Adapter for either
Turbidity (NTU)
PTSA
Fluorescein

PrimeLab-Turbidity-Adapter kit

Some test procedures, such as Turbidity (NTU), PTSA and Fluorescein, require scattered rather than direct light (LED -> sensor). To achive this and to still use all functionality of your PrimeLab, e.g. *Bluetooth*® connectivity, use of software, app and cloud services etc., an adapter is used which shines your water sample from above, enabling the PrimeLab to measure using scattered light (90° angle between adapter and sensor).
The adapter comes in a black carrying case with professional lab-pipette, all neccessary calibration-solutions, batteries and a glass vial. Adapter and PrimeLab communicate by light. You do not even need to switch on the adapter. It will be auto-detected.

PrimeLab Turbidity-Adapter

If turbidity should be measured in low ranges (below 20 NTU) the nephelometric method in which the LED does not shine directly through the water sample to the sensor (as in FAU), but at a 90° angle, is used.
This process can be recognized by the suffix "NTU" / "FTU" or "FNU" as the measured value.
More information on the nephelometric principle can be found in DIN EN ISO 7027.
The PrimeLab-Turbidity-Adapter is based on secondary standards, verified against formazine (international turbidity standard) standards and uses a white-light source.

PrimeLab PTSA-Adapter

PTSA (1,3,6,8-pyrenetetrasulfonic acid tetrasodium salt) is a stable fluorescent tracer dye that emits wavelengths between 400 and 500 nm when irradiated with UV light. It provides an excellent choice for the active on-line monitoring of cooling water treatment when a fixed known amount is added to the inhibitor being dosed. Once added to the water circulation system it is stable over time, does not react easily with other substances and is environmentally safe.
The PrimeLab-PTSA-Adapter uses a UV-light source.

PrimeLab Fluorescein-Adapter

Fluorescein is a stable fluorescent tracer dye that emits green light with wavelengths between 520 and 530 nm upon excitation with blue light with a maximum absorption at 495 nm.
It provides an accurate, cost effective method for monitoring industrial boiler applications when a fixed known amount is added to dosage program. Once added to the water circulation system it is stable over time and is environmentally safe when dosed at the concentrations required for boiler water analysis.

Basic equipment

- PrimeLab Multitest with integrated *Bluetooth*®-module
- Black plastic case
- DC adapter (220/110 V) with interchangeable international plugs
- 4 × AAA 1.5 V batteries
- *Bluetooth*®-USB dongle for wireless connection to your PC
- CD-ROM “PrimeLab Desktop Assistant”
- 2 × 24 mm standard round cuvette (glass / 10 ml) with light absorber integrated into lid
- Light protection lid for 16 mm standard cuvettes
- 10 ml syringe
- Cleaning brush for cuvettes
- Stirring rod

Optional

- Adapter for COD 16 mm “Prepared“ cuvettes
- 100 ml plastic measuring tube
- Filter unit for filtering water samples

Installed parameters/ measurement methods

The parameters / measurement methods installed on the PrimeLab may be individually defined by the user and extended at any time after purchase by entering activation codes into the software. Thus also subsequently developed measurement methods can still be installed.

The PrimeLab will never become obsolete.

Technical details / features

Dimensions:	175 mm × 88 mm × 59 mm
Weight:	160 g
Spectral range:	380 nm – 780 nm with 7 open channels and ±40 nm overlap each
Data Transmission:	Built-in *Bluetooth*®-module
Calibration:	Auto-calibration by JENCOLOR sensor; determination of LED brightness
One Time Zero:	Intelligent OTZ (One Time Zero) function, detecting different ZERO types
Internal memory:	100 data records / 20 accounts records
Clock / Date:	RTC (real-time clock) with date function
Auto-Off:	Default = 10 minutes. Individually adjustable
Menu navigation:	Intuitive, display-controlled 4-button menu system; test instructions during the measurement process (can be skipped)
Power supply:	optionally 4 × 1.5 V AAA batteries or 100–240 V AC, 50/60 Hz, 0.2 A → 5.0 V, 1200mA, 6 W
Display:	Graphical LCD display, monochrome
Operating languages:	German, English, Spanish, French
Environment:	5 °C – 45 °C (41 °F – 113 °F) / 30 % – 90 % rel. humidity
Water resistancy:	The unit is splash-proof
Reagents:	The calibration curves of the individual parameters are matched to the reagents offered by the manufacturer. The use of reagents by other manufacturers may result in measurement errors! The scope of delivery of the PrimeLab includes solely high-quality reagents “Made in Germany” and “Made in Britain”!

PRIMELAB 1.0
MULTITEST

The “PrimeLab 1.0 Multitest” is a high-tech photometer of the latest generation.

Small and handy, but incredibly powerful thanks to the multi-spectral JENCOLOR sensor.
Quick and easy wireless connection via *Bluetooth*® to a PC and the “PrimeLab Desktop Assistant” software.

Use the Software „PrimeLab Desktop Assistant“ for:

Uploading further measurement methods on the PrimeLab

Convenient management of test results with reporting function

Create proposals for water treatment on the basis of measurement results by entering your water treatment chemicals as well as ideal ranges (min/max) per parameter.

Update the PrimeLab firm- and software

Remote control your PrimeLab

PrimeLab.exe

ZIM impulse für wachstum Zentrales Innovationsprogramm Mittelstand
Supported by: Federal Ministry of Economics and Technology on the basis of a decision by the German Bundestag

CE

TÜV SÜD

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